App. Serial No. 09/519,727
New Docket No. STFD.057PA
Office Action Response and Amendment

Remarks

Favorable reconsideration of this application is requested in view of the following remarks. For the reasons set forth below, Applicant respectfully submits that the claimed invention is allowable over the cited references.

The non-final Office Action dated May 21, 2003, indicated that claims 5, 10, 17 and 19 are objected to as being dependent upon a rejected base claim; claims 22-24 are rejected under 35 U.S.C. § 112(2); claims 1, 3, 4 and 6 are rejected under 35 U.S.C. § 102(e) in view of *Cioffi* (U.S. Patent No. 5,887,032); claims 1, 2, 7-9, and 20 are rejected under 35 U.S.C. § 102(b) in view of *Gitlin* (U.S. Patent No. 4,995,104); claim 21 is rejected under 35 U.S.C. § 102(e) in view of *Shimizu et al.* (U.S. Patent No. 6,496,534); claims 11-14 are rejected under 35 U.S.C. § 103(a) over *Gitlin* in view of *Anderson et al.* (U.S. Patent No. 6,522,699); and claims 15, 16 and 18 are rejected under 35 U.S.C. § 103(a) over *Gitlin* and *Anderson et al.* and further in view of *Cioffi* (U.S. Patent No. 5,995,567).

The subject matter of claims 5, 10, 17 and 19 has not been rejected. Each of claims 5, 10, 17 and 19 are amended to be in independent form including all of the limitations of their respective base and intervening claims. Accordingly, Applicant requests that the dependency-based objections be removed.

With respect to the Section 112(2) rejection, claims 22-24 are amended to depend from claim 21 instead of claim 20, thereby overcoming the Section 112(2) rejection. Applicant requests that the rejection be withdrawn.

The amendments to claims 1 and 7 are presented to clarify Applicant's use of the term "iteratively" in connection with the steps involving iterative computing or iterative calculating, as should be reasonably interpreted from the claims themselves or, as required by MPEP §2173.02, in view of Applicant's Specification. As discussed below, these amendments provide clarification which is implicit in the originally-presented claims.

Applicant respectfully traverses the Section 102(e) rejection of claims 1, 3, 4 and 6. The Office Action has failed to present a *prima facie* case under Section 102(e) with respect to the limitation of claims 1, 3, 4 and 6 corresponding to the '032 reference and because the evidence establishes that the '032 reference is not "prior" art under

8

Section 102(e). Applicant submits that the Office Action has failed to align various limitations in each of claims 1, 3, 4 and 6 with the teaching of the '032 reference. In this regard, the Office Action has failed to allege that the '032 reference teaches claim limitations such as "iteratively computing a probable cross talk signal" which would inherently produce a plurality of iteratively computed probable cross talk signals, or calculating the data signal based upon "the iteratively computed probable cross talk signals". Such correspondence to the '032 reference is not apparent from the cited portions of the '032 reference.

Applicant further submits that the '032 reference is not "prior" art to (or "before") the claimed invention. In connection with a rejection of a claimed invention, Section 102(e) defines a category of reference that can be used as "presumptive" prior art so long as, *inter alia*, the asserted reference was filed "before" Applicant's invention. To the extent that the rejected claims might correspond to the subject matter disclosed in the '032 reference, the respective Section 1.63 Declarations filed in connection with the instant application and with the '032 reference would establish Mr. John M. Cioffi as a common inventor who invented the subject matter of the rejected claims at the same time and in connection with the filing of the application for the '032 reference, thereby removing the '032 reference from the § 102(e) / § 103 category. As further evidence, Applicant has enclosed a Declaration Under 37 C.F.R. § 1.131. In view thereof, Applicant respectfully submits that the '032 Reference is not qualified as "prior" are under 35 U.S.C. § 102(e), and that this rejection should be removed.

With respect to the Section 102(b) rejection of claims 1, 2, 7-9 and 20, Applicant respectfully traverses because the Office Action has failed to present a reference that corresponds to each of Applicant's claim limitations. Claims 1-2 of the instant invention are directed to a method of canceling cross talk interference including, for example, "iteratively computing a probable cross talk signal." The Office Action does not assert any prior art teaching of the iterative computing aspects as set forth in claims 1 and 2. On the contrary, the cited portion (column 3, lines 41-52) of the '104 reference teaches that three separate computations are made to attain an estimate of the desired signal A(t), as follows:

App. Serial No. 09/519,727
New Docket No. STFD.057PA
Office Action Response and Amendment

> In accordance with the present invention, as will be
> described in detail below, crosstalk canceller circuit 220
> first makes an estimate of the desired signal A(t), denoted
> Â(t). This is possible because the signal power of A(t) is
> generally significantly greater than the combined power of
> the noise and crosstalk signals. Next, an estimate of the
> crosstalk signal, X(t), is determined by subtracting the
> estimated desired signal Â(t) from a first delayed version of
> the received signal r(t). Finally, a refined estimate of the
> desired signal, A(t), is obtained by subtracting the
> estimated crosstalk signal X(t) from a second delayed
> version of the received signal r(t). *(emphasis added)*

As shown in Figure 2, the '104 reference uses summer 204 to generate an estimate of the crosstalk signal, X(t), by subtracting the estimated desired signal Â(t) from a first delayed version of the received signal r(t). The summer 204 merely provides an estimate and does not "iteratively" compute a probable cross talk signal or otherwise produce an iteratively computed probable cross talk signal. The '104 reference feeds its output signal to a detector 208. As with the summer 204, the detector 208 does not "iteratively" compute probable cross talk signals or otherwise produce iteratively computed probable cross talk signals as claimed. Moreover, taken together, the summer 204 and the detector 208 fail to iteratively compute or otherwise produce a plurality of iteratively computed probable cross talk signals as claimed. As the cited portion of the '104 reference fails to teach the claimed invention, as defined by all the limitations, the rejection should be removed.

With respect to the Section 102(b) rejection of claims 7-9 and 20, the Office Action fails to present a *prima facie* case, by failing to allege correspondence between the *Gitlin* '104 reference and the claimed invention including, *e.g.*, the limitations involving iteratively calculating an expected value for each symbol in the symbol block. As discussed above, the Office Action does not provide correspondence between the '104 reference and this "iterative" aspect. In each of these claims, no portion of the '104 reference appears to produce a plurality of the claimed iteratively calculated expected values. Accordingly, this Section 102(b) rejection is improper and should not be maintained.

App. Serial No. 09/519,727
New Docket No. STFD.057PA
Office Action Response and Amendment

Applicant respectfully traverses the Section 102(e) rejection of claim 21. The Office Action fails to align the *Shimizu* '534 reference with specific claim limitations. For example, the '534 reference fails to teach the limitations involving "computing a probability distribution" and "calculating a weighted average from the probability distribution", as claimed. In the portions of the '534 reference (column 5, lines 39-67, and column 6, lines 58 *et seq.*) as cited by the Office Action, probability distributions are not discussed. To the extent that the Office Action is attempting to equate "probable values" as allegedly discussed at column 6 of the '534 reference with the claimed aspects quoted above, Applicant fails to recognize the similarity and, should the rejection be maintained, would respectfully request clarification. With respect to column 7 of the '534 reference, this citation does not concern the type of weighting set forth in the claim but rather fading-based interval weighting. Because the '534 reference does not teach the claimed invention, Applicant requests that the Section 102(e) rejection of claim 21 be withdrawn.

Applicant further traverses the Section 103(a) rejection of claims 11-14 in view of the *Anderson* '699 reference over the *Gitlin* '104 reference. Because claims 11-14 are dependent upon claims 7-8 and the underlying reference has already been addressed in connection with the Section 102 rejection in view of *Gitlin*, Applicant submits that the instant Section 103 rejection fails to establish correspondence between the teachings of these references and the rejected claims. Moreover, Applicant submits that the rationale used in asserting the combination lacks in both motivation and correspondence to the invention claimed by Applicant. Each of these rejected claims, for instance, requires iteratively calculating an expected value for each symbol, wherein the iteratively calculating includes calculating interference power. The Office Action does not explain any motivation for the iterative efforts in connection with interference power calculations and, taken in combination, the asserted prior art fails to provide correspondence to this aspect of the claimed invention.

Applicant similarly traverses the Section 103 rejection of dependent claims 15, 16 and 18 over the *Gitlin* '104 reference and the *Anderson* '699 reference in view of the '567 reference to Professor John Cioffi *et al.* These claims are dependent upon claim 11 that

11

App. Serial No. 09/519,727
New Docket No. STFD.057PA
<u>Office Action Response and Amendment</u>

includes limitations involving certain claimed iterations, and these limitations have
already been distinguished from the underlying '104 and '699 references in connection
with the Section 102 and 103 rejections involving the *Gitlin* '104 reference. In
connection with these limitations involving certain claimed iterations, combining these
underlying references with the '699 reference fails to provide an implementation that
would correspond to the rejected claims. Moreover, Applicant submits that the Section
103 rejection of claims 15, 16 and 18 is not supported by any evidence that a skilled
artisan would be motivated to implement this combination or to alter these different
teachings in a manner that would correspond to the claimed invention.

In view of the remarks above, Applicant believes that each of the rejections has
been overcome and the application is in condition for allowance. Should there be any
remaining issues that could be readily addressed over the telephone, the Examiner is
encouraged to contact the undersigned at (651) 686-6633, extension 101.

Respectfully submitted,

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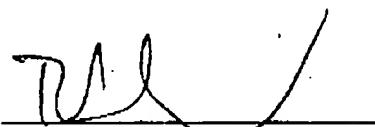
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12